

Claims

1. A pinch grip hanger mechanism for automatically dispensing pinch grip hangers and opening pinch grips to enable insertion of a garment by an operator, the mechanism comprising:

a magazine for holding a plurality of pinch grip hangers, each hanger having at least one pinch grip;

a push plate which engages a single hanger from the magazine, said push plate reciprocating from a hanger feed position to a hanger stop position in a first direction;

at least one ram positioned to project onto the at least one pinch grip of the hanger and opening said hanger pinch grip at the hanger stop position; and

a trigger for automatically retracting the at least one ram following insertion of a garment by the operator.

2. A pinch grip mechanism as claimed in claim 1, which further comprises means to reciprocate the push plate in said first direction to said hanger stop position.

3. A pinch grip mechanism as claimed in claim 1, which further comprises a size cap magazine, said size cap magazine dispensing a single size cap with each movement of the push plate in said first direction.
4. A pinch grip hanger mechanism as claimed in claim 3, wherein the push plate further comprises a means for attaching the size cap to the hanger.
5. A pinch grip hanger mechanism as claimed in claim 4, wherein said mechanism further includes a hanger stop, to stop movement of the hanger in a first direction at said hanger stop position.
6. A pinch grip hanger mechanism as claimed in claim 1, wherein the push plate is actuated by a control circuit which enables automatic hanger feed to the operator following removal of a garment and hanger from the mechanism.
7. A pinch grip hanger mechanism as claimed in claim 1, wherein said push plate defines a cut-out portion for a hook of the pinch grip hanger so that pressure is applied to the arms of said hanger when moving the hanger in said first direction.

8. A pinch grip hanger mechanism as claimed in claim 1, wherein said trigger is located proximately to the at least one pinch grip of the hanger when in the hanger stop position, whereby said trigger is actuated when the operator places the garment in the pinch grips of the hanger.
9. A pinch grip hanger mechanism as claimed in claim 8, wherein said mechanism further includes a control circuit for enabling the retraction of the ram, thereby allowing the pinch grip to be closed, and the initiation of movement of the push plate in a second direction when said trigger is actuated.
10. A pinch grip hanger mechanism as claimed in claim 9, wherein said control circuit automatically reverses the push plate cylinder when it engages a retraction stop switch.
11. A pinch grip hanger mechanism as claimed in claim 9, wherein said control circuit automatically pauses the push plate cylinder when it engages an extension stop switch at said hanger stop position.
12. A pinch grip hanger mechanism as claimed in claim 8 in which said mechanism includes a pneumatic push

plate cylinder to reciprocate said push plate and a pneumatic control circuit.

13. A pinch grip hanger mechanism as claimed in claim 12 in which said control circuit includes a reversible spool valve to reverse the movement of the pneumatic push plate cylinder when said trigger means is actuated.

14. A pinch grip hanger mechanism as claimed in claim 1 further including a bracket to adjustably mount said magazine and said ram a plurality of defined distances from a centerline axis to accommodate a plurality of hanger sizes.

15. A pinch grip hanger mechanism for automatically dispensing pinch grip hangers and opening pinch grips to enable insertion of a garment by an operator, the mechanism comprising:

a magazine for holding a plurality of pinch grip hangers, each hanger having a support bar and first and second pinch grips;

a push plate which engages a single hanger as it is dispensed from the magazine, said push plate reciprocating from a hanger feed position to a hanger

stop position in a first direction, and from said hanger stop position to a hanger feed position in a second direction;

first and second pinch grip cylinders for projecting first and second rams onto the first and second pinch grips of the hanger and opening said hanger pinch grips, the first and second pinch grip cylinders being actuated by a pneumatic control switch, said control switch engaged by a stop mounted on said push plate when the push plate reaches the hanger stop position; and

a triggering means for automatically retracting the first and second pinch grip cylinders and reciprocating said push plate to the hanger feed position following insertion of a garment by the operator to enable automatic hanger feed to an operator following removal of the garment and hanger from the mechanism.

16. A pinch grip hanger mechanism as claimed in claim 15, wherein said triggering means includes first and second garment actuated triggers located proximately to the pinch grip cylinders, said triggering means being actuated when the operator places the garment in the pinch grips of the hanger.

17. A pinch grip hanger mechanism as claimed in claim 16 in which said first and second pinch grip cylinders are mounted on either side of an axis of reciprocation for said push plate, and said triggering means includes first and second triggers positioned proximate to said first and second pinch grip cylinders and external thereto with respect to said axis of reciprocation.
18. A pinch grip hanger mechanism as claimed in claim 15 in which said mechanism includes a pneumatic push plate cylinder to reciprocate said push plate and a pneumatic control circuit.
19. A pinch grip hanger mechanism as claimed in claim 1 in which movement of said push plate in said first direction defines a centerline axis for the mechanism, with said magazine formed of two symmetrically spaced towers, said mechanism further including a bracket to adjustably mount said spaced towers and said first and second pinch grip cylinders a plurality of defined distances from said centerline axis to accommodate a plurality of hanger sizes.